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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/523,350	03/10/2000	Hiroyuki Kino	36856.283	5246

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EXAMINER

KIM, PAUL D

ART UNIT PAPER NUMBER

3729

DATE MAILED: 02/11/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/523,350

Applicant(s)

KINO ET AL.

Examiner

Paul D Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,5,8,10-13,15,16,18 and 20-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5, 8, 10-13, 15, 16, 18 and 20-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. This office action is a response to the amendment filed on 1/29/2004.

#### ***Claim Objections***

2. Re. Claims 15 and 22: Claim 15 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Claim 14 has been cancelled. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.
3. Re. Claim 16: It is confused that whether the phrase “the plurality of flattened-ring compact bodies” recited in lines 1-2 indicates the same plurality of thin compact bodies having flattened through holes recited in line 3 of claim 11 or not.

The limitations recited in lines 2-3 are so related as to constitute a proper **Markush group**. They may be recited in the conventional manner, or alternatively. For example, “wherein the plurality of thin compact bodies are a selected from the group consisting of a ring-shape, an E-shape, An l-shape, a rectangular shape and a square shape” is a proper limitation. (see MPEP 2173.05(h)).

Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the

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art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 21 and 22 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The phrase "joints between adjacent thin compact bodies are exposed after the bars are attached to the thin compact bodies" recited in lines 1-3 was not described in the specification originally and appears to be new matter.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 2, 8, 10-13, 16, 18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art in view of Matsymoto et al. (JP 03005377 A) and Yasuda et al. (JP-4367569 A).

Fig. 5 of Applicant Admitted Prior Art teaches a method of manufacturing a flattened-ring magnetic core comprising steps of: providing a plurality of flattened-ring compact bodies (21) made of a magnetic material having holes (22); arranging the plurality of flattened-ring compact bodies that axes of the flattened-ring compact bodies

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is arranged in horizontally; and firing the flattened-ring compact bodies (lines 16-26 of page 1 in specification).

As per claim 2 the arranged plurality of flattened-ring compact bodies are arranged in a plurality of rows as shown in Fig. 5.

However, Applicant Admitted Prior Art does not disclose a step of attaching the plurality of flattened-ring compact bodies to one another vertically. Matsymoto et al. teach a method of making a piezoelectric ceramic formed body including steps of attaching a plurality of ceramic bodies (4) vertically arranged in a vessel (5) as shown in Fig. 5 and forming  $\text{ZrO}_2$  powder (3) in between the ceramic bodies (see Constitution) for preventing bond-sticking during a sintering process. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify a flattened-ring compact bodies of Applicant Admitted Prior Art by attaching a plurality of ceramic bodies vertically arranged with a powder in between as taught by Matsymoto et al. for the purpose of preventing sticking ceramic bodies during a sintering process to improve production efficiency.

Also, Applicant Admitted Prior Art, modified by Matsymoto et al., does not disclose a step of attaching a power made of an organic to a surface of the flattened-ring compact bodies and vaporized during the firing step. Yasuda teaches a process of making an inserting sheet for firing ceramic comprising steps of inserting sheet for interposing upon firing ceramic mouldings comprises a base sheet formed from shaped inorganic powder (2) with an organic powder binder (3) and firing the ceramic mouldings with the interposing sheet and the organic powder is vaporized for preventing bond-

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sticking during the firing step and enabling recovering of fired mouldings separately.

Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify a flattened-ring compact bodies of Applicant Admitted Prior Art, modified by Matsymoto et al., by attaching an organic powder on the surface of the composite structure as taught by Yasuda for the purpose of preventing bond-sticking during the firing step and enabling recovering of fired mouldings separately.

Even though Applicant Admitted Prior Art, modified by Matsymoto et al., does not disclose the compact bodies' shape and the particle size in the organic powder as recited in claims 8, 10, 16, 18 and 20, however, at the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to apply the compact bodies' shape and the particle size in the organic powder as recited in the claimed invention because Applicant has not disclosed that the compact bodies' shape and the particle size in the organic powder as recited in the claimed invention provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with Applicant Admitted Prior Art, modified by Matsymoto et al., because the compact bodies' shape and the particle size in the organic powder as recited in the claimed invention would perform equally well in Applicant Admitted Prior Art, modified by Matsymoto et al. Therefore, it would have been an obvious matter of design choice to modify the compact bodies' shape and the

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particle size in the organic powder of Applicant Admitted Prior Art, modified by Matsymoto et al., to obtain the invention as specified in claims 8, 10, 16, 18 and 20.

8. Claims 5 and 15 are, as best understood based on the objection as set forth above, rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art in view of Matsymoto et al. and Yasuda, and further in view of Shirahata (US PAT. 6,005,468).

Applicant Admitted Prior Art, modified by Matsymoto et al. and Yasuda, teaches all the claimed inventions except of a bar attached each of a pair of sides of the stacked flattened-ring compact bodies. Fig. 16 (a) of Shirahata shows a bar (64) attached each side of flattened-ring compact bodies (2A,2B,2C) for holding the compact bodies. Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify a flattened-ring compact bodies of Applicant Admitted Prior Art, modified by Matsymoto et al. and Yasuda, by attaching a bar to the flattened-ring compact bodies as taught by Shirahata for the purpose of maintaining a stable condition of the flattened-ring compact bodies to prevent falling off during the manufacturing process.

### ***Response to Arguments***

9. Applicant's arguments filed 1/29/04 have been fully considered but they are not persuasive. Applicant argues that Matsymoto et al. do not teach a thin compact bodies having through holes. Examiner traverses the argument. The scope invention is that the thin compact bodies having with powders in between the thin compact bodies are

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stacking vertically to prevent sticking together or cracking while the thin compact bodies are fired. Applicant Admitted Prior Art (AAPA) discloses the plurality of flattened-ring compact bodies made of a magnetic material having through holes. Even though Matsymoto et al. do not teach the thin compact bodies having through holes, Matsymoto et al. teach a process of attaching a plurality of thin compact bodies vertically arranged in a vessel and forming  $\text{ZrO}_2$  powder in between the thin compact bodies for preventing bond-sticking during a sintering process. It would be obvious to modify flattened-ring compact bodies of Applicant Admitted Prior Art by a process of attaching a plurality of ceramic bodies vertically arranged with a powder in between as taught by Matsymoto et al. for the purpose of preventing sticking ceramic bodies during a sintering process to improve production efficiency.

Applicant also argues that AAPA fails to disclose how the through holes of the thin compact bodies would be maintained and not eliminated if vertically stacked and fired. Even though the prior art does not disclose how the through holes of the thin compact bodies would be maintained and not eliminated if vertically stacked and fired, there are no such limitations in the claimed invention.

Applicant also argues that AAPA teaches that the method must be performed in air. Examiner traverses the argument that either AAPA or Matsymoto et al. does not limit the process that the firing process must be performed in air. Also, there is no such limitation in the claimed invention such as the firing process must be performed in air.



***Conclusion***

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul D Kim whose telephone number is 703-308-8356. The examiner can normally be reached on Tuesday-Friday between 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 703-308-1789. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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pdk



**A. DEXTER TUGBANG**  
**PRIMARY EXAMINER**